Chronic Disease Management and Registries

Karl Watts, MD, SAMG Director of PCMH Development

Objectives

Understand the problem with our current approach to chronic disease management

Understand the Chronic Care Model and identify strategies to employ in clinics

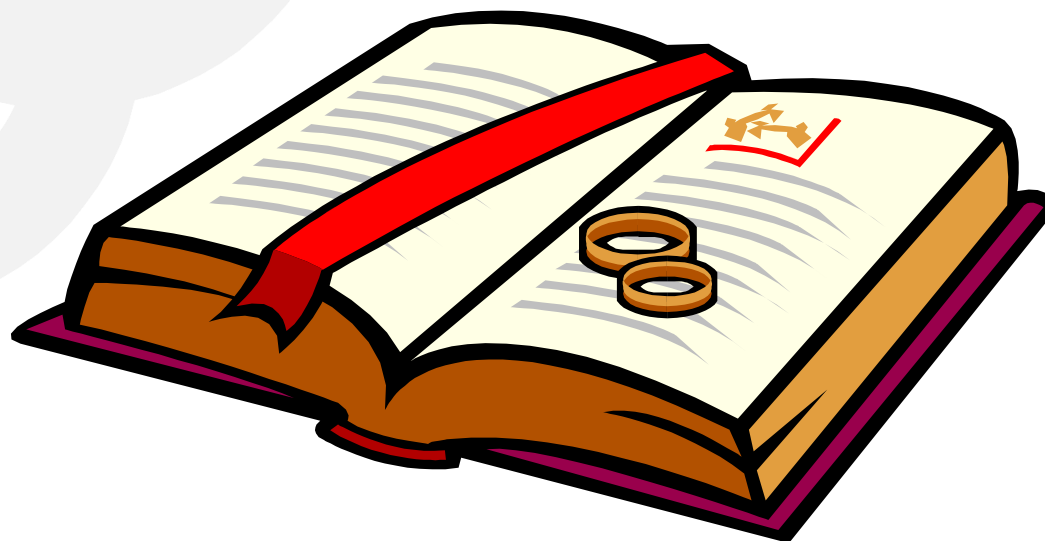Definition of a registry and it's value as a tool in chronic disease management

The Gospel According to Chronic Disease Management

The conversion process

"My Testimony"

Current state

Reason for change

Future state

Our tangled health care system

The patient
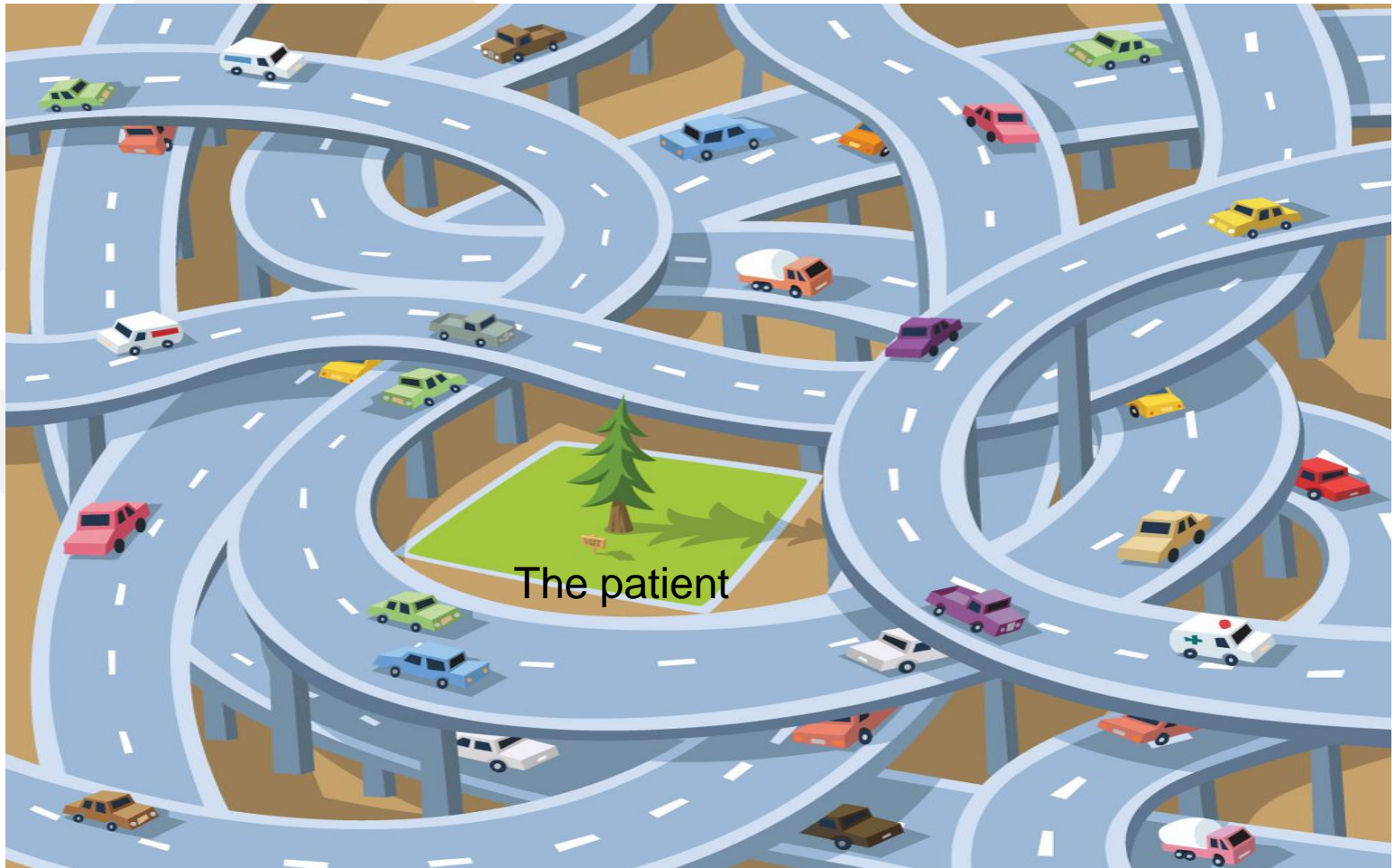
Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

National Health Expenditures per Capita, 1960-2010
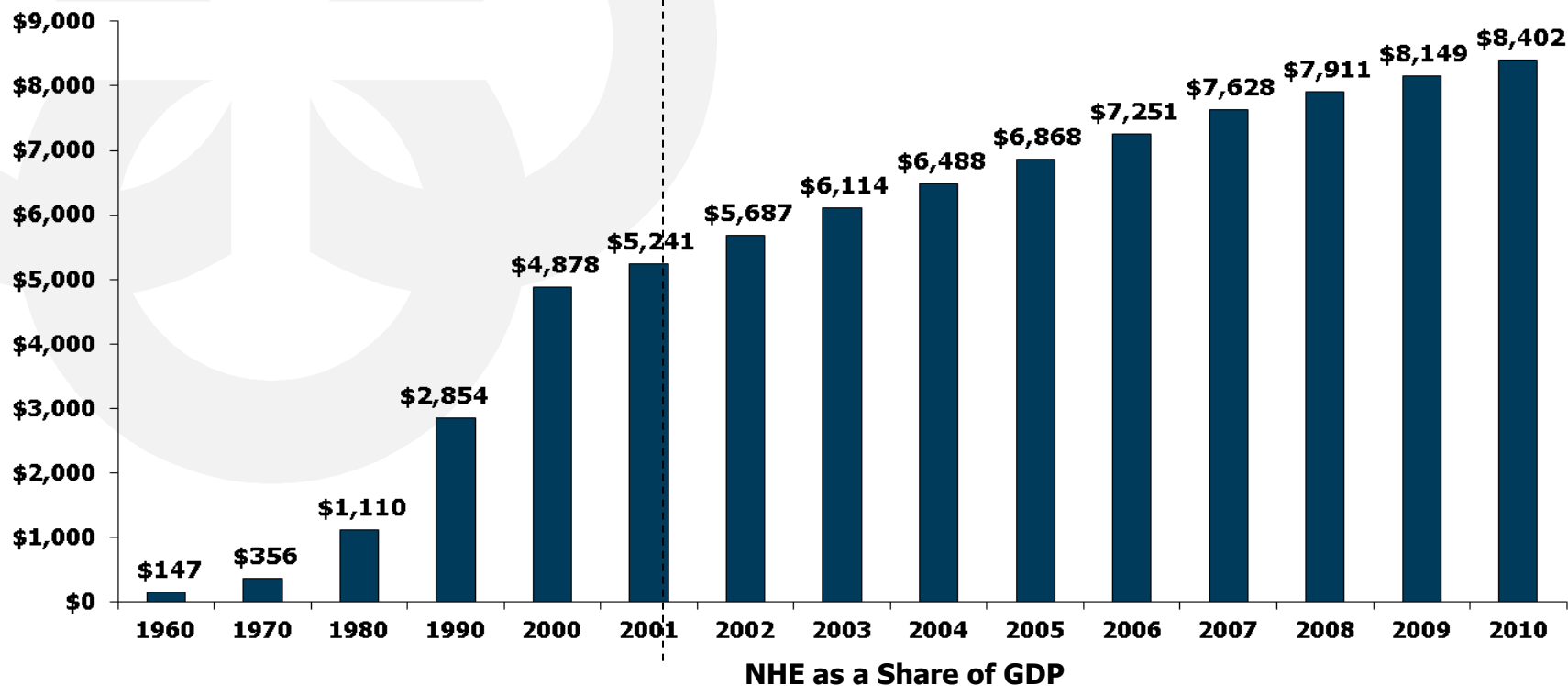
Year	Expenditure	NHE as a Share of GDP
1960	$147	5.2%
1970	$356	7.2%
1980	$1,110	9.2%
1990	$2,854	12.5%
2000	$4,878	13.8%
2001	$5,241	14.5%
2002	$5,687	15.4%
2003	$6,114	15.9%
2004	$6,488	16.0%
2005	$6,868	16.1%
2006	$7,251	16.2%
2007	$7,628	16.4%
2008	$7,911	16.8%
2009	$8,149	17.9%
2010	$8,402	17.9%

Notes: According to CMS, population is the U.S. Bureau of the Census resident-based population, less armed forces overseas and population of outlying areas, plus the net undercount.

Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, at http://www.cms.hhs.gov/NationalHealthExpendData/ (see Historical; NHE summary including share of GDP, CY 1960-2010; file nhegdp10.zip).

Per Capita Total Current Health Care Expenditures, U.S. and Selected Countries, 2007

Country	Expenditure
Australia	$3,172
Austria	$3,581
Belgium^	$3,462
Canada	$3,715
Denmark	$3,362
Finland	$2,677
France	$3,496
Germany	$3,463
Greece	$2,626
Iceland*	$3,319
Ireland	$3,295
Italy	$2,569
Netherlands^	$3,527
Norway	$4,463
Spain	$2,578
Sweden	$3,180
Switzerland^	$4,417
United Kingdom	$2,851
United States	$6,956
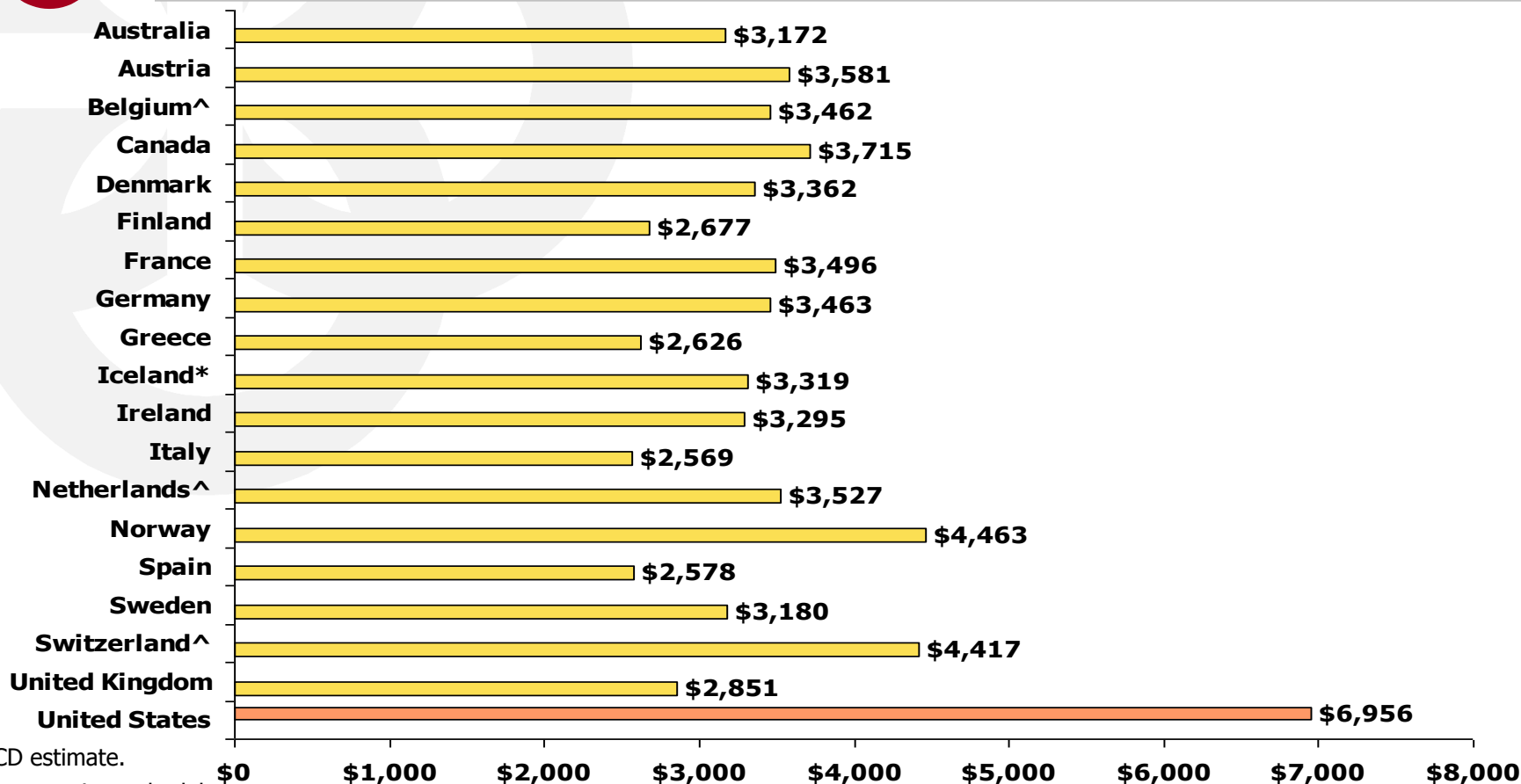
^OECD estimate.
*Differences in methodology.

Notes: Amounts in U.S.$ Purchasing Power Parity, see www.oecd.org/std/ppp; includes only countries over $2,500. OECD defines Total Current Expenditures on Health as the sum of expenditures on personal health care, preventive and public health services, and health administration and health insurance; it excludes investment.

Source: Organisation for Economic Co-operation and Development. OECD Health Data 2009, from the SourceOECD Internet subscript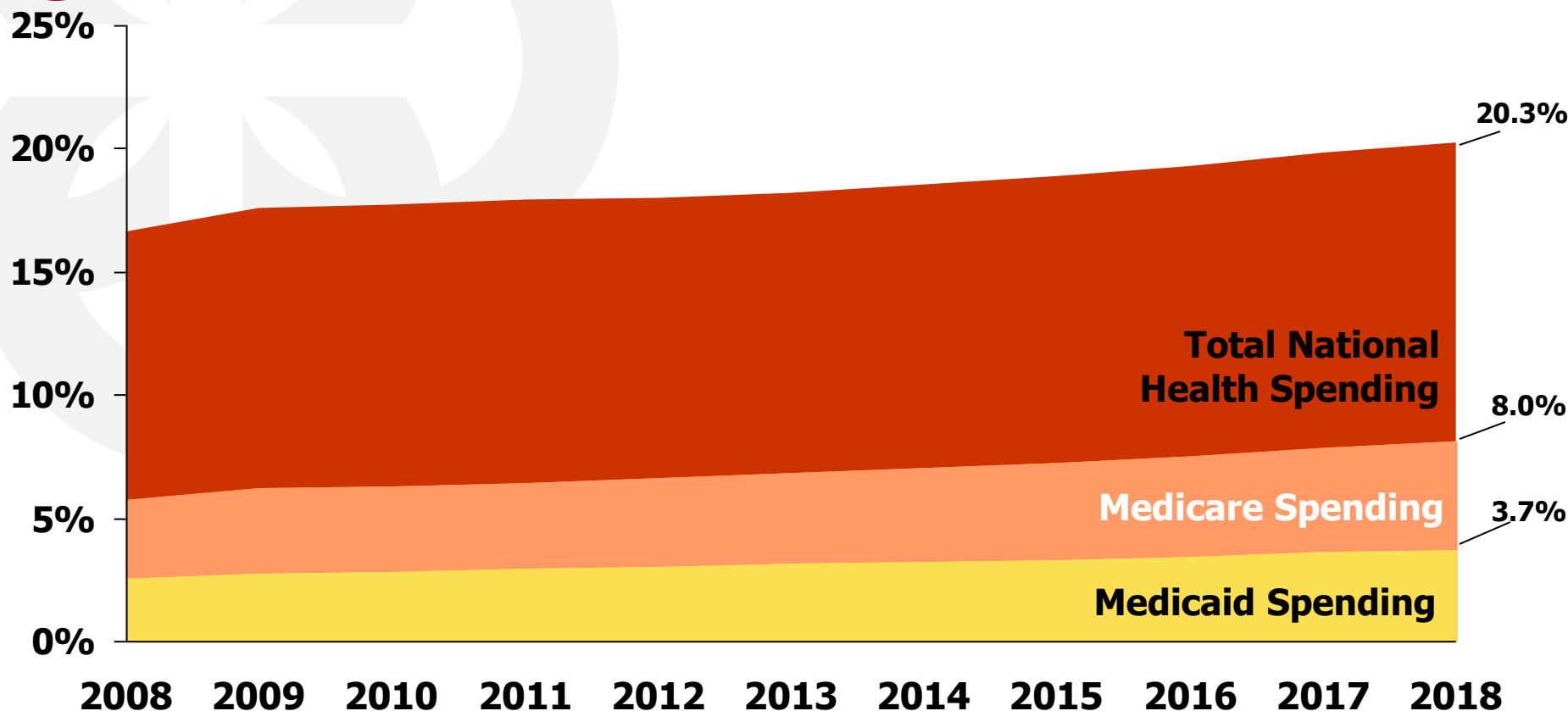ion database updated November 2009. Copyright OECD 2009, http://www.oecd.org/health/healthdata. Data accessed on 11/13/2009.

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Projected Spending on Health Care as a Percentage of Gross Domestic Product

Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, at http://www.cms.hhs.gov/NationalHealthExpendData/03_NationalHealthAccountsProjected.asp#TopOfPage (see Projected; NHE Historical and projections, 1965-2018, file nhe65-17.zip).
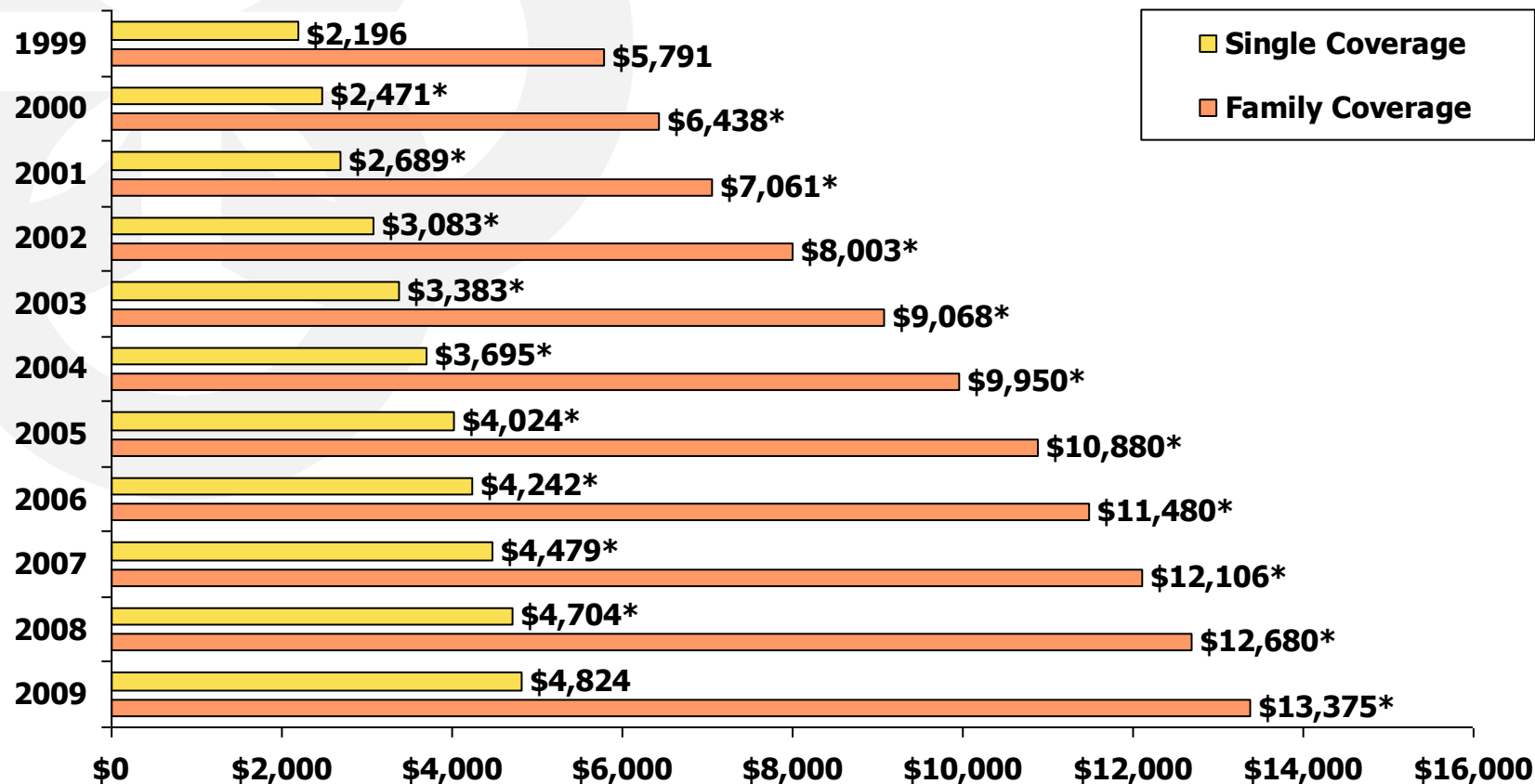
Average Annual Premiums for Single and Family Coverage, 1999-2009

Year	Single Coverage	Family Coverage
1999	$2,196	$5,791
2000	$2,471*	$6,438*
2001	$2,689*	$7,061*
2002	$3,083*	$8,003*
2003	$3,383*	$9,068*
2004	$3,695*	$9,950*
2005	$4,024*	$10,880*
2006	$4,242*	$11,480*
2007	$4,479*	$12,106*
2008	$4,704*	$12,680*
2009	$4,824	$13,375*

* Estimate is statistically different from estimate for the previous year shown (p<.05).

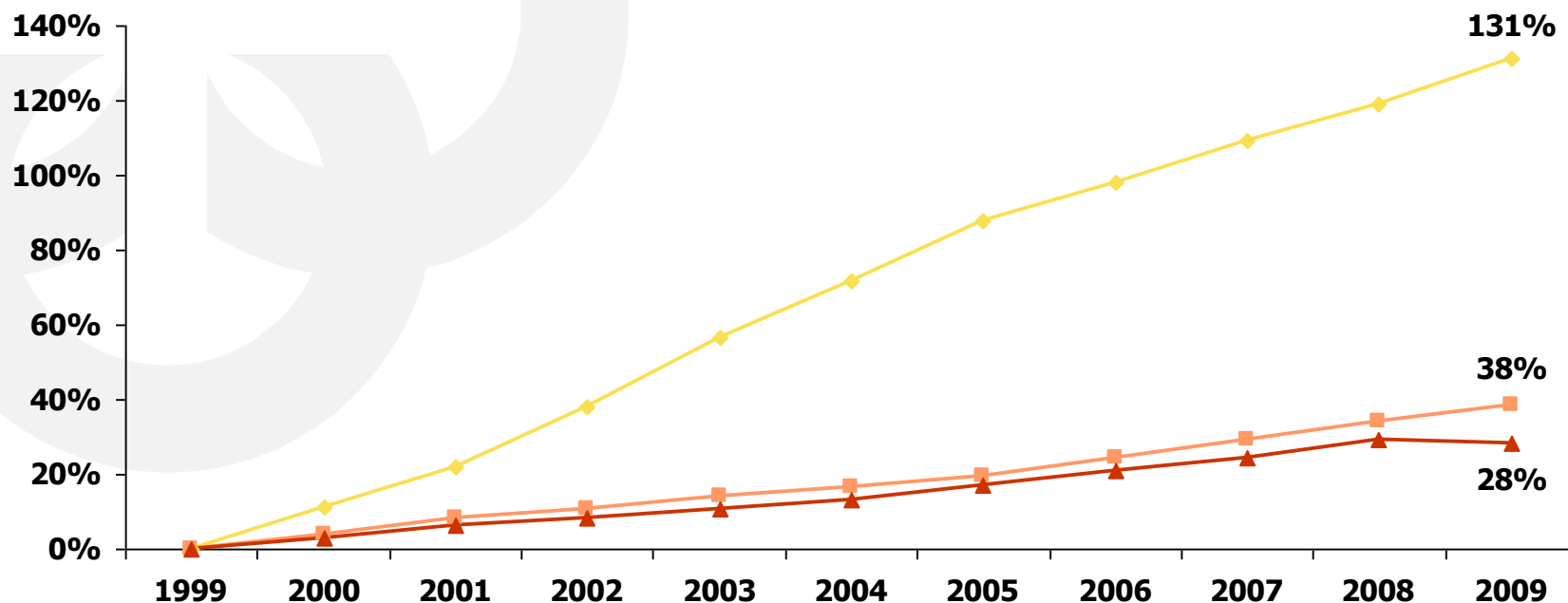Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2009.

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Cumulative Changes in Health Insurance Premiums, Inflation, and Workers' Earnings, 1999-2009


Note: Due to a change in methods, the cumulative changes in the average family premium are somewhat different from those reported in previous versions of the Kaiser/HRET Survey of Employer-Sponsored Health Benefits. See the Survey Design and Methods Section for more information, available at http://www.kff.org/insurance/7936/index.cfm.
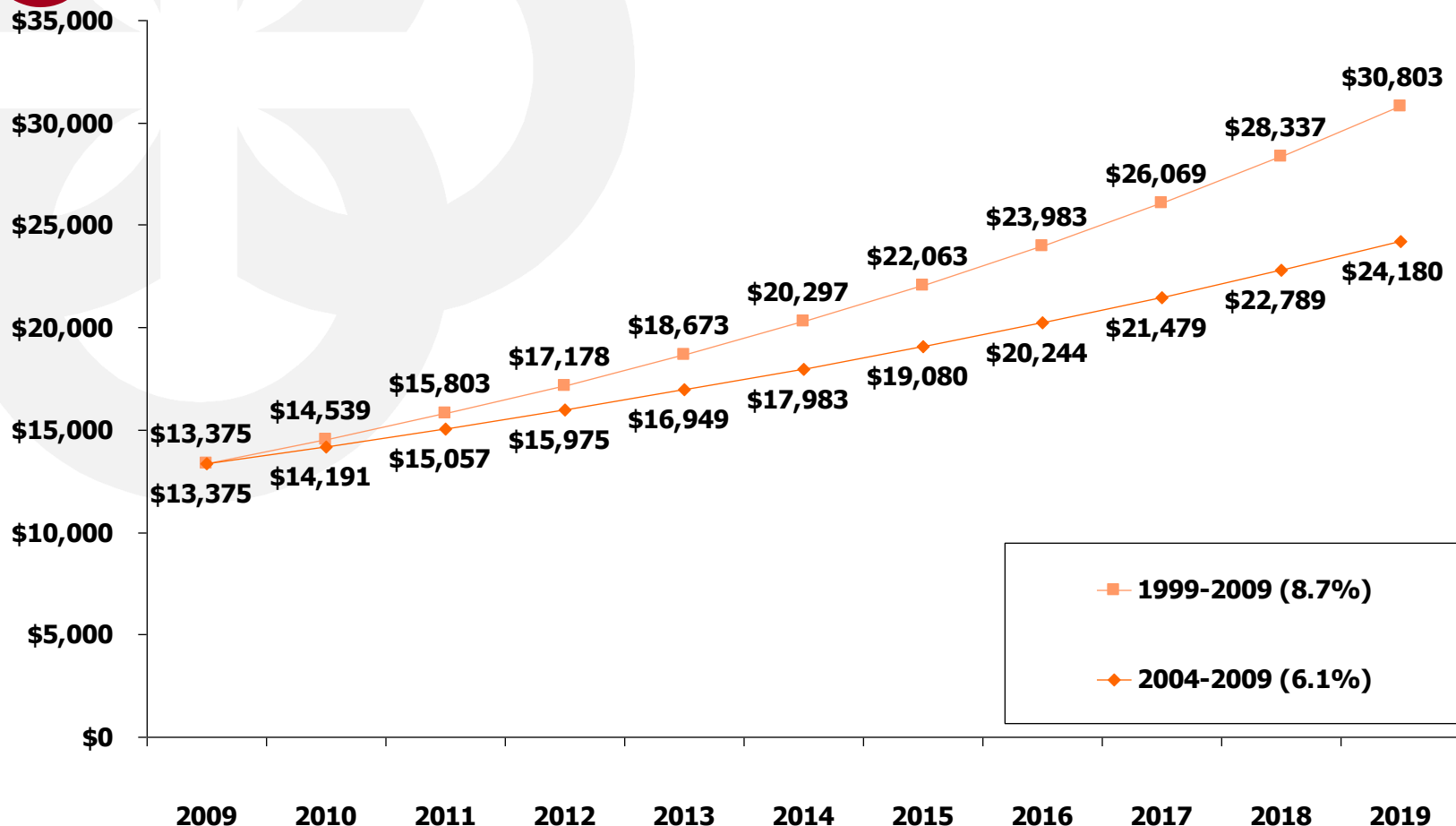
Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2009. Bureau of Labor Statistics, Consumer Price Index, U.S. City Average of Annual Inflation (April to April), 1999-2009; Bureau of Labor Statistics, Seasonally Adjusted Data from the Current Employment Statistics Survey, 1999-2009 (April to April).
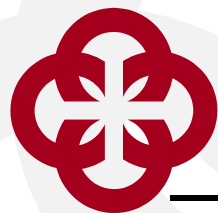
Projected Health Insurance Premiums for Family Coverage, Assuming Average Growth Rates, from 1999-2009 and 2004-1999

$35,000
$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0

1999-2009 (8.7%)
$13,375
$14,539
$15,803
$17,178
$18,673
$20,297
$22,063
$23,983
$26,069
$28,337
$30,803

2004-2009 (6.1%)
$13,375
$14,191
$15,057
$15,975
$16,949
$17,983
$19,080
$20,244
$21,479
$22,789
$24,180

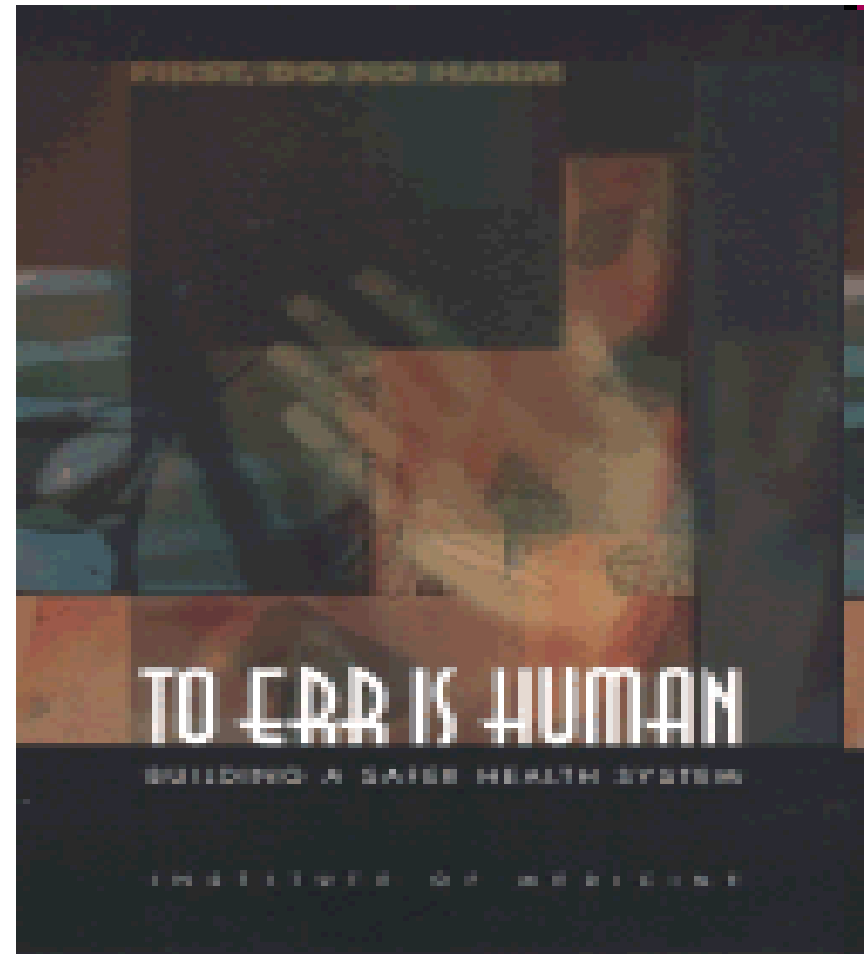2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Note: Health insurance premiums projected for 2010-2019 assuming (1) that the average growth in premiums between 1999 and 2009 (8.7%) continues or (2) that the average growth in premiums between 2004 and 2009 (6.1%) continues. Source: Kaiser Family Foundations projections based on data from Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2009.

THE HENRY J. KAISER FAMILY FOUNDATION

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Institute of Medicine (IOM)

- **To Err is Human: Building a Safer Health System (2000)**

- "…Deaths due to medical errors exceed the number attributable to the 8th-leading cause of death. More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516)."

Institute of Medicine (IOM)

- **Crossing The Quality Chasm: A New Health System for the 21st Century (2001)**

- "As disturbing as the committee's report on safety is, it reflects only a small part of the unfolding story of quality in American health care. Other defects are even more widespread and, taken together, detract still further from the health, functioning, dignity, comfort, satisfaction, and resources of Americans."

Institute of Medicine
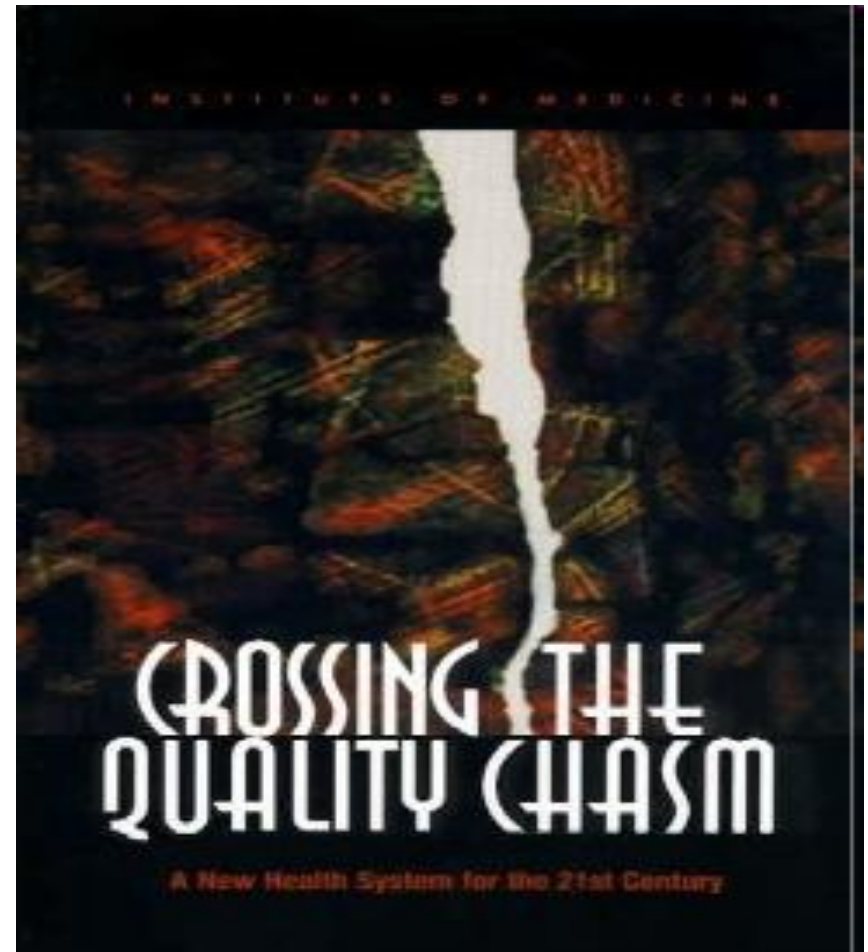
CROSSING THE QUALITY CHASM

A New Health System for the 21st Century

Crossing the Quality Chasm

- For several decades, the needs of the American public have been shifting from predominantly acute, episodic care to care for chronic conditions. Chronic conditions are now the leading cause of illness, disability, and death; they affect almost half of the U.S. population and account for the majority of health care expenditures (Hoffman et al., 1996; The Robert Wood Johnson Foundation, 1996).

Robert Wood Johnson Foundation

- In 1990, the direct medical costs for persons with chronic conditions was $425 billion, nearly 70 percent of all personal health care expenditures (The Robert Wood Johnson Foundation, 1996).

- In 2008, the U.S. spent more than $2 trillion on health care—nearly 17 percent of our economy. Meanwhile, 46 million people are uninsured. But extending coverage is only a start. Meaningful reform will also require improving quality, a focus on prevention and reducing costs.

Quality of Diabetic Care

Percent of adults with diabetes who have a HgbA1c at least twice a year   64.6%

Percent of adults with diabetes with an HgbA1c value less than 7   53.5%

Percent of adults with diabetes with an HgbA1c value greater than 9   16.2%

Percent of adults with diabetes lipid control   53.1%

(Adult = 18 years of age and greater)

(Data from Health Indicators Warehouse, 2008)

Quality of Hypertensive Care

Percent of adults with hypertension whose blood pressure is under control   43.7%

Percent of adults with blood pressure check in the past two years and can state whether it was normal or high   92.9%

Percent of adults with hypertension who are taking prescribed medications as instructed   70.4%

Percent of adults with hypertension   29.9%

(Data from Health Indicators Warehouse, 2008)

Quality of Mental Health

Percent of adults with major depressive episode who received treatment   71.0%

Percent of children with mental health problem who received treatment   68.9%

Percent of primary care sites that provide mental health services on site
or by paid referral   79.0%

(Data from Health Indicators Warehouse, 2008)

History of Free Clinics

Begins with altruistic objective to serve those who cannot access medical care

Usually with a focus on acute illness

Rapidly realize that the majority of the need is for chronic disease management

Garden City Study

A study of our patients revealed that the vast majority of our patients had chronic diseases:

Hypertension

Diabetes

Mood Disorders

Dyslipidemia

Current State

The problem is whether it is acute care or chronic care we approach them the same - **episodically**

"Radar Screen Mentality"
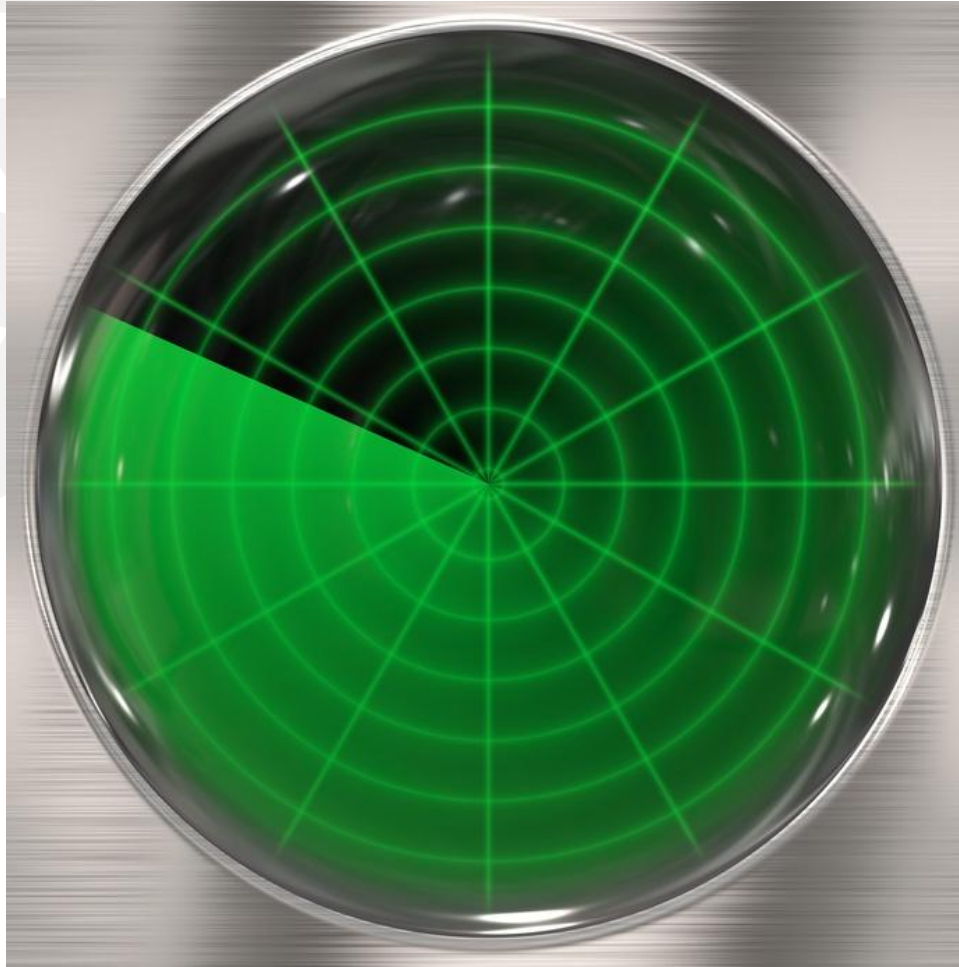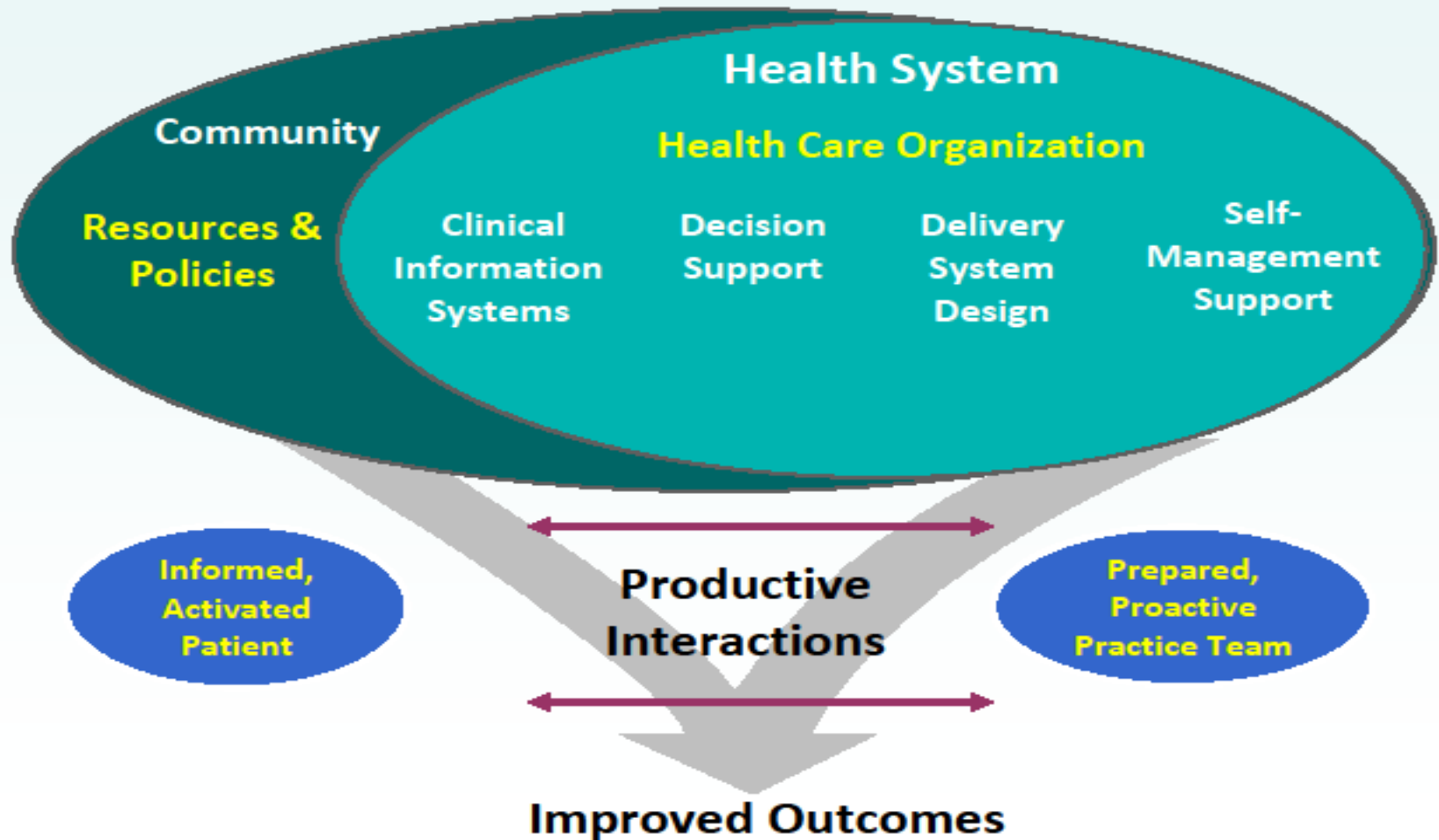
Edward Wagner

- Since 1998, Dr. Wagner has directed "Improving Chronic Illness Care", a national program of The Robert Wood Johnson Foundation.

- He is a member of the Institute of Medicine and

- He and his MacColl Institute colleagues developed the Chronic Care Model

Chronic Care Model (CCM)

Slide from E. Wagner

Saint Alphonsus

BOISE NAMPA ONTARIO BAKER CITY

Chronic Care Model

A population-based organizational approach to caring for people with chronic disease in a primary care setting

- Evidence-based interactions
- Activated prepared patient
- Proactive practice team

Chronic Care Model

Mobilize community resources to meet the needs of patients

- Participation in community programs
- Partnerships that fill gaps in services
- Advocacy for policy change

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Chronic Care Model

Create an organization that provides safe, high quality care

- Effective improvement strategies
- Facilitation of care coordination within and across organizations
- Incentives based on quality

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Chronic Care Model

Empower and prepare patients to manage their health care

- Emphasize the patient's central role

- Use of self-management support strategies

- Use of community resources for self-management support

Chronic Care Model

Delivery system re-design

- Distribute tasks among team members
- Planned interactions
- Clinical case management
- Regular follow-up
- Culturally sensitive

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Chronic Care Model

Promote care consistent with scientific data and patient preferences

- Evidence-based care guidelines
- Share the guidelines with patients
- Integration of the specialist where appropriate

Chronic Care Model

Clinical information systems

- Reminders to patients and providers
- Identification of subpopulations into registries for proactive care
- Monitor performance

Registries

Definition:

- A disease registry is a database that contains information about people diagnosed with specific types of diseases. The registry collects information that can be used for capturing, managing, and organizing specific information for a population of patients. Disease registries are either clinical-based or population-based.

- **Clinic-Based Registry**

- A clinical-based disease registry contains data on patients with a specific type of disease diagnosed and treated at a practice, which allows care team members to proactively manage patients with chronic diseases.

- **Population-Based Registry**

- A population-based disease registry contains and tracks records for people diagnosed with a specific type of disease who reside within a defined geographic region (i.e., a community, city, or statewide).

Registries

A disease registry is a powerful tool that can drive significant practice change and improve the health of the patients being served. They offer the provider, patient, and community a variety of benefits. Disease registries:

- enable the provider to ensure that all their patients are getting proper care
- track the progress of high-risk patients
- identify the need for follow-up services
- increase quality of care and improve patient outcomes
- empower patients to take an active role in their treatment
- coordinate care and identify gaps
- increase public awareness and prevent chronic diseases
- support the Chronic Care Model and Medical Home Model
- incorporate consensus guidelines for disease management
- determine best practices and support evidence-based care

Registries

Public Domain Software

Benefit – cost, straightforward technology, community support, product testing

Obstacles – manual data entry, scalability, flexibility, limited support

Examples – CDEMS, PECS2, PHEMS, SECAT

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Registries

Commercial Software

  Benefit – scalability, enhanced functionality, technical sophistication

  Obstacles – cost, data ownership, security, vendor stability, lack of testing

  Examples – AmCare, CliniPro, PatientPlanner, Cielo, MedVentive, AveCare, AviTracks

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Registries

EMR

- Individual patient based
- Point of care documentation
- Legal patient record
- Not designed for reporting and identifying gaps
- Not designed to follow quality

Registry

- Population based
- Longitudinal data capture
- Not a patient record
- Designed for reporting and identifying gaps
- Basic design supports quality initiatives

1st A1C	Date	2nd A1C	Date	3rd A1C	Date	4th A1C	Date	5th A1C
8.9	07/15/10	7.3	09/29/10	8.9	08/25/11	6.9	09/19/12	
10	06/04/10	10.4	03/25/11	10.4	04/14/11			
5.7	06/30/11	5.8	01/05/12	7.4	01/05/12	5.6	05/22/12	5.5
5.5	04/22/10	6	10/07/10	7.3	03/23/11			
5.6	06/01/11							
9	12/23/09	11.7	10/09/10					
5.8	07/27/10	6.4	01/03/12	6.4	09/17/12			
6.5	07/04/07	7.4	11/06/07	6.90	02/29/08	7.3	11/18/08	6.9
10.2	03/29/11	9.2	08/30/11	9.3	12/13/11	8.2	05/30/12	7.8
5.7	11/02/10	6.2	04/27/12					
6.2	06/29/11	6.2	06/29/11	6.7	03/14/12	7.1	06/22/12	6.9
10.1	05/13/10	7.2	07/28/10	6.5	11/04/10	8.2	03/20/12	7
7.8	01/11/12	7.5	09/17/12					
6.6	02/04/10	5.9	07/29/10	6.1	09/30/10	6.8	02/10/12	6.9
5.1	05/11/11	5.3	01/30/12					
12.5	03/30/11	11.5	03/15/11	7	08/30/01	9.3	02/09/12	10.7
6.7	11/03/10	7.2	09/15/11	7.7	03/07/11	7.2	06/08/11	7.2
13.9	11/08/11	14.3	07/25/12	11.5	10/09/12			
8.7	02/23/10	8.6	05/20/10	8.7	09/15/10	9.6	07/05/11	9.2
10.8	03/21/12	10.8	06/20/12	10.7	09/26/12			

MedVentive's Solutions:
Population Manager & Risk Manager

Knowledge based technology platform; two related yet different needs.

MV Population Manager (PM)

Clinical Integration is about collaboration to manage *quality*:

- Patient Center Medical Home
- Managing to a common set of care guidelines in a collaborative manner
- Care coordination to promote efficiency
- Finding and managing gaps in care
- Measuring improvement

MV Risk Manager (RM)

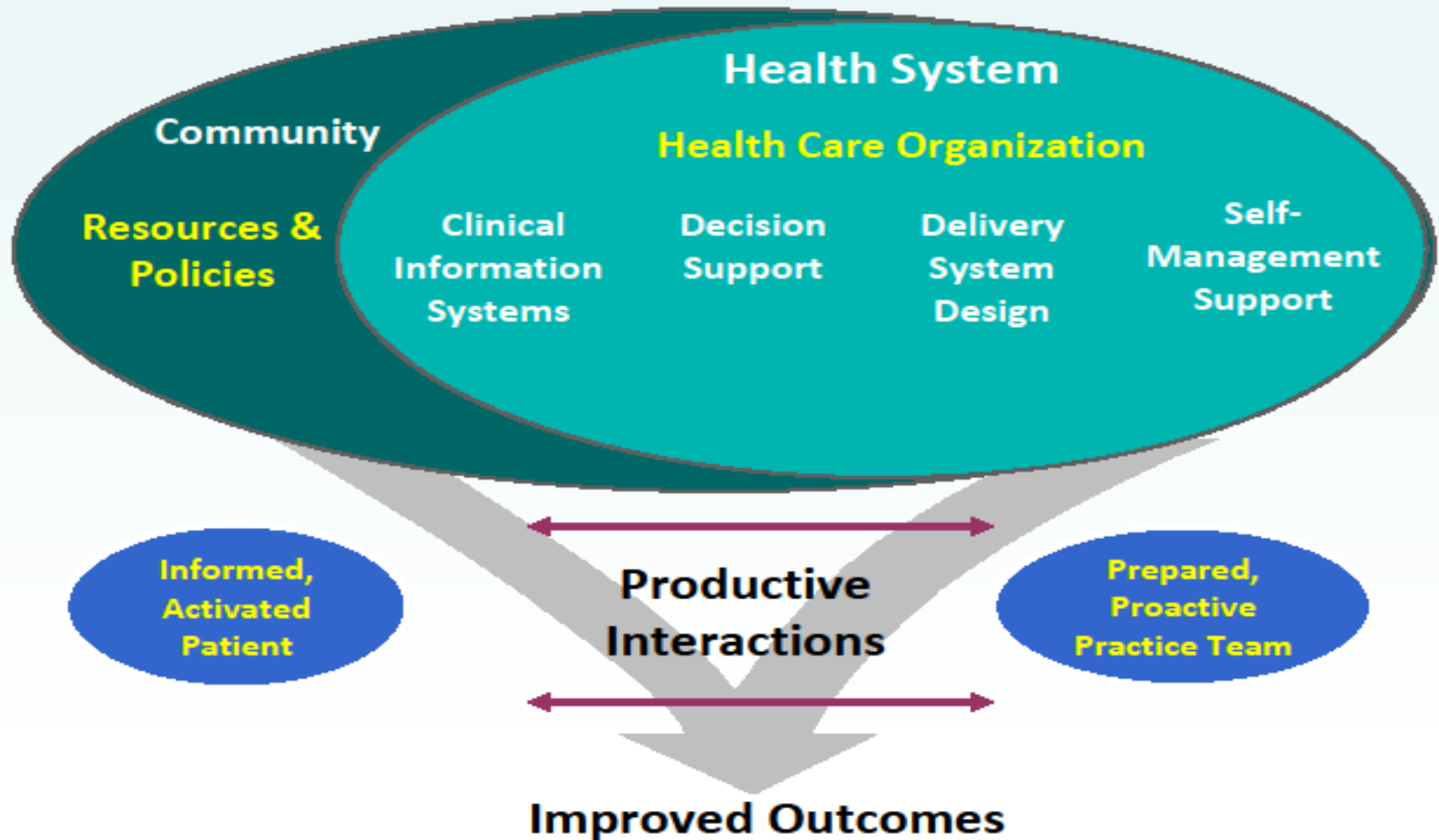**ACO Risk management is focused on:**

- Quality management
- Cost management
  - ✓ Reducing variation in patterns of care:
    - Drug spend
    - Length of stay
    - Imaging spend
    - ED use and more
- Network management
  - ✓ Leakage
  - ✓ Physician reimbursement

Saint Alphonsus
BOISE NAMPA ONTARIO BAKER CITY

Chronic Care Model (CCM)

Questions